National Institute of Environmental Health Sciences

Risk factors, prevention and communication strategy during Nipah virus outbreak in Malaysia

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Abstract:

An outbreak of acute febrile encephalitis affecting pig-farm workers and owners was recognized in peninsular Malaysia as early as September 1998. The outbreak was initially thought to be due to Japanese encephalitis (JE) virus and thus very intensive prevention, control and communication strategies directed at JE virus were undertaken by the Ministry of Health and Ministry of Agriculture of Malaysia. There was an immediate change in the prevention, control and communication strategies with focus and strategies on infected pigs as the source of infections for humans and other animals following the discovery of Nipah virus. Information and understanding the risks of Nipah virus infections and modes of transmission strengthened the directions of prevention, control and communication strategies. A number of epidemiological surveillances and field investigations which were broadly divided into 3 groups covering human health sector, animal health sector and reservoir hosts were carried out as forms of risk assessment to determine and assess the factors and degree of risk of infections by the virus. Data showed that there was significant association between Nipah virus infection and performing activities involving close contact with pigs, such as processing of piglets, administering injection or medication to pigs, assisting in the birth of piglets, assisting in pig breeding, and handling of dead pigs in the affected farms. A complex process of anthropogenic driven deforestation, climatic changes brought on by El Nino-related drought, forest fire and severe haze, and ecological factors of mixed agro-pig farming practices and design of pig-sties led to the spillovers of the virus from its wildlife reservoir into pig population.

Source: http://www.mjpath.org.my/2010.2/Nipah_virus_outbreak.pdf

Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Health Professional

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Extreme Weather Event, Food/Water Quality

Extreme Weather Event: Drought, Wildfires

Food/Water Quality: Pathogen

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Malaysia

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Zoonotic Disease

Zoonotic Disease: Nipah Virus

Intervention: ☑

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified

☑

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content